

USSN 10/511,496  
Response to Office Action dated June 14, 2006  
Atty Docket 101137-55  
Page 2

RECEIVED  
CENTRAL FAX CENTER

AUG 14 2006

## II. CLAIMS

1. (Currently Amended) A method of determining an environmental condition of which the effect on one or more microorganisms is unknown comprising measuring the measurement of a natural biochemical composition by detecting qualitatively or quantitatively a plurality of different biomolecules in one or more microorganisms exposed to said environmental condition, wherein said composition specifically changes as a result of a reaction of the microorganism under the influence of said environmental condition, the induction route that leads to the change in the biochemical composition is unknown, and determining said environmental condition on basis of said measurement.
2. (Currently Amended) A method for determining changes in an environmental condition of which the effect on one or more microorganisms is unknown comprising the measurement of a natural biochemical composition of by detecting qualitatively or quantitatively a plurality of different biomolecules in one or more microorganisms exposed to said changes in an environmental condition, wherein said composition specifically changes as a result of a reaction of the microorganism under the influence of said environmental condition, the induction route that leads to the change in the biochemical composition is unknown, and determining said changes in an environmental condition on basis of said measurement.
3. (Currently Amended) A method for determining an environmental condition of which the effect on one or more microorganisms is unknown comprising the steps of measuring a natural biochemical composition of by detecting qualitatively or quantitatively a plurality of different biomolecules in one or more microorganisms exposed to said environmental condition, comparing said biochemical composition to a predetermined calibration line of a plurality of biochemical compositions of said one or more microorganisms obtained by means of exposure of said one or more

USSN 10/511,496  
Response to Office Action dated June 14, 2006  
Atty Docket 101137-55  
Page 3

microorganisms to a plurality of environmental conditions, the induction route that leads to the change in the biochemical composition is unknown, and determining said environmental condition by means of the position of said biochemical composition on said calibration line.

4. (Previously Presented) A method according to claim 1, wherein said one or more microorganisms comprise bacteria, fungi and/or yeasts.

5. (Previously Presented) A method according to claim 1, wherein said biochemical composition comprises the transcriptome, the proteome and/or the metabolome of a microorganism.

6. (Previously Presented) A method according to claim 1, wherein said biochemical composition is the transcriptome.

7. (Previously Presented) A method according to claim 5, wherein said biochemical composition is determined using microarrays.

8. (Currently Amended) A method for controlling or monitoring an environmental condition a process, comprising a method according to claim 1.

9. (Original) A method for controlling a process, comprising a method according to claim 8.

10. (Previously Presented) A method according to claim 1, of determining an environmental condition of a food preparation process, a biofilm formation process, a fermentation process and/or a bioconversion process by measuring a natural biochemical composition present in said process by detecting qualitatively or quantitatively a plurality of different biomolecules in one or more microorganisms present in said process, and determining said environmental condition on basis of said measurement.

USSN 10/511,496  
Response to Office Action dated June 14, 2006  
Atty Docket 101137-55  
Page 4

11. (Previously Presented) A method according to claim 1, for determining a chemical and/or biological substance in air and/or aqueous environment comprising measuring a natural biochemical composition in said environment by detecting qualitatively or quantitatively a plurality of different biomolecules in one or more microorganisms in said environment and determining the presence of said chemical and/or biological substance on basis of said measurement.

12. (New) the method of claim 1 where the measuring a natural biochemical composition by detecting qualitatively or quantitatively a plurality of different biomolecules in accomplished in more than one species of microorganism exposed to said environmental condition.

13. (New) A method of determining an environmental condition without identification of the effect of such environmental condition on one or more microorganisms comprising

measuring a natural biochemical composition by detecting qualitatively or quantitatively a plurality of different biomolecules in one or more microorganisms exposed to said environmental condition, wherein

said composition specifically changes as a result of a reaction of the microorganism under the influence of said environmental condition, and

determining said environmental condition on basis of said measurement.